

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Carrier Current Systems, including	)	ET Docket No. 03-104
Broadband Over Power Line Systems	)	
	)	
Amendment of Part 15 Regarding	)	ET Docket No. 04-37
New Requirements and Measurement	)	
Guidelines for Access Broadband	)	
Over Power Line Systems	)	

**OPPOSITION OF AMBIENT CORPORATION**

Ambient Corporation ("Ambient") herewith submits its comments in response to the Petitions for Reconsideration of Aeronautical Radio, Inc., ARRL, the National Association for Amateur Radio, NAC-Amherst, American Petroleum Institute, and Cohen, Dippell and Everest, P.C. in the above-referenced proceeding.<sup>1</sup>

**INTRODUCTION**

Ambient Corporation is a development stage company engaged in the design, development and marketing of equipment and technologies that utilize existing electrical power medium voltage and low voltage distribution lines as a medium for the delivery of broadband and other communication services. Ambient has designed, developed and successfully tested, in a number of demonstration settings, its proprietary technology and is currently working with leading utilities and

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<sup>1</sup> Carrier Current Systems, Including Broadband over Power Line Systems, Report and Order [FCC 04-245], ET Docket Nos. 03-104 and 04-37, released October 28, 2004 ("R&O").

technology companies in the design, development and testing of the principal equipment, components and technologies that comprise its BPL Technologies.

As described in its Progress Reports, prototypes of its proprietary components and technologies presently are being evaluated in field trials pursuant to its nationwide Experimental License, call sign WD2XEQ to demonstrate their capabilities (1) to provide enhanced last-mile competitive access as well as to open up broadband service capabilities for offices and residences in rural and underserved areas and (2) to meet important public safety needs of electric utilities for enhanced monitoring and maintaining the power Grid.

## DISCUSSION

We confirm that the Commission's support for the early deployment of Access BPL technologies in its R&O has provided an important incentive for continuing study of enhancements in the broadband capabilities of these technologies as well as their interference mitigation capabilities. These enhancements include the development of new software and hardware designs which are being developed in response to the new rules for Access BPL systems. Attached is a copy of Ambient's most recent Progress Report dated March 3, 2005 under its Experimental license summarizing its testing of advanced hardware and software capabilities. See Exhibit A hereto. Based on our experience, these designs

hold tremendous promise in helping to facilitate more effective and efficient access to spectrum. The Commission's goals in this proceeding should be to ensure that its interference protection rules and policies do not inadvertently hinder development and deployment of such capabilities.

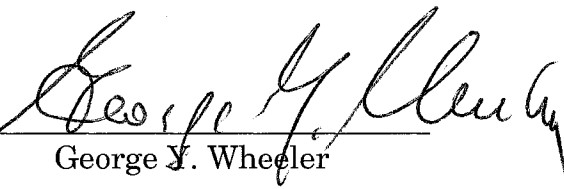
We support the Commission's efforts to facilitate deployment of BPL technologies while ensuring that existing users are protected from harmful interference. The Commission's new BPL rules incorporate numerous protections such as Part 15 emission limits, requirements for adaptive interference mitigation features, requirements for information on the areas where their systems are installed and other technical parameters to be recorded and maintained in a central database and adoption of specific measurement guidelines for Access BPL. These are significant protections for licensed users which, with the adoption of the adjustments proposed in the Petitions for Reconsideration of the United Power Line Council, Amperion, Inc. and Current Technologies, LLC, will provide an appropriate basis for the fledgling BPL industry from to get its start and to demonstrate its capabilities.

## CONCLUSION

The Commission's R&O balances the significant promise of new and innovative public benefits from the deployment of Access BPL technologies and the concerns of

licensed users. We support the adoption of proposed changes in the Petitions for Reconsideration of the United Power Line Council, Amperion, Inc. and Current Technologies, LLC, to eliminate the 30-day advance notification requirement for the BPL database compliance. We also request that the Commission take no action on reconsideration which would delay the rapid development of the full potential of this emerging technology, reduce the opportunities for BPL to develop as a realistic competitive alternative to cable modems and DSL, or to add onerous crippling regulation while the fledgling BPL industry is still in the earliest stages of its development.

Respectfully submitted,

By   
George Y. Wheeler

Holland & Knight LLP  
2099 Pennsylvania Avenue, N.W.  
Suite 100  
Washington, DC 20006  
(202) 457-7073

Its Attorney

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Call Sign WD2XEQ  
File No. 0050-EX-ML-2003

PROGRESS REPORT OF AMBIENT CORPORATION'S TESTS  
PURSUANT TO  
EXPERIMENTAL LICENSE

Ambient Corporation ("Company") submits this six-month progress report in accordance with the conditions of its Experimental License to evaluate broadband access via carrier current systems over power lines.

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Test Sites: The Company has continued its ongoing test program at its test site in Westchester County, New York since the grant of its original STA in June 2002. During the past six months the Company expanded its network in Westchester County, providing the Consolidated Edison with telemetry from its distribution lines and providing a network capacity to meet the needs of residents for broadband data services.

The MV/LV test system with Orange and Rockland Utilities Inc. ("O&R") at Monsey, New York reported in the company's previous Progress Report is unchanged and remains in operation. At this installation Ambient received a report of interference from a licensed operator in 37.0 - 37.5 MHz band. The Company was able to "notch out" BPL system transmission in this frequency band which solved the interference problem.

Testing of the in-building LV demonstration system at the offices of IDACOMM, Inc. in Boise, Idaho for broadband Internet access capabilities reported in the Company's previous Progress Report is continuing.

In February of 2005, the Company set up an in-building Low Voltage demonstration system at a 200 unit high-rise apartment building in New York, NY, to test and demonstrate broadband internet access capabilities.

BPL Standards Development: Members of the Company's engineering staff have taken their experience gained from the Company's extensive testing program to assist in the development of interoperability standards for access and in-building Broadband over Power Line (BPL) technologies in the following IEEE working groups:

Dr. Yehuda Cern, its Chief Engineer, was chosen as a Chair of the Hardware Task Group for the BPL Hardware Safety Standard Working Group which is developing "Standard for Broadband over Power Line Hardware and Personnel Safety."

Aron Viner, its Principal RF Engineer, was chosen as a Chair of the PLC EMC Standard Working Group which will develop the Standard "Powerline Communication Equipment. Electromagnetic Compatibility (EMC) requirements. Testing and Measurement methods".

Ram Rao, its Chief Network Architect, became a member of the BPL MAC/ PHY Standard Working Group which will develop "Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications."

Testing of Advanced Hardware and Software Capabilities: In the framework of its Experimental License, the Company continues to develop and test methods for enhancing the performance of its BPL systems and to monitor and adjust the parameters of its test facilities to be responsive to the concerns of the Amateur radio operators consistent with its obligations under its Experimental License.

The Company is now testing operations on underground distribution plant in the Westchester County area in addition to on-going testing of overhead plant.

The Company has made additional advances in its software which controls the frequency mask for radiated emissions in licensed radio bands. These new releases are more stable than prior releases and provide improved performance to assure at least 20 dB notching capabilities for interference mitigation.

As previously reported to the Commission, the Company has notched out its signals on Amateur bands, demonstrating significant advancements in our technology over the relatively short time period of its test program. These bands include the following Amateur Radio bands: 80, 40, 30, 20, 15 and 10 meters: 3.5-4 MHz, 7-7.3 MHz, 10.1-10.15 MHz, 14.0- 14.35 MHz, 21-21.45 MHz and 28.0-29.7 MHz.

The Company has also made improvements in the design of its devices to enhance shielding of undesired radiated emissions and to optimize power levels which comply with Part 15 limits.

March 3, 2005